



Analysis of factors that influence the behavior of using complementary and alternative medicine (CAM) in chronic diseases

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ABSTRACT

Complementary therapy is one of the treatment options that is often used by patients who face chronic diseases. Public interest in using Complementary and Alternative Medicines is increasing. The research aims to determine the most dominant factors influencing the use of Complementary and Alternative Medicines in the aggregate community with chronic diseases. This research design is cross-sectional. The research was conducted from 18 May to 17 June 2023. The sampling technique was purposive sampling, which was 107 people. The instrument is a questionnaire. Data were analyzed using the logistic regression test. The results of the multivariate analysis show that the most dominant variable influencing the use of Complementary and Alternative Medicines based on the odds ratio value is attitude where a positive attitude will increase the use of Complementary and Alternative Medicines by 9.384 times compared to a negative attitude after being controlled by other variables in modeling. The second most dominant variable is the length of time the chronic disease has been suffered, where the duration of the chronic disease suffered ≥ 3 months will increase the use of Complementary and Alternative Medicines by 8.454 compared to < 3 months after being controlled by other variables in the model.

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1. Introduction

The development of complementary therapies has recently become the focus of many countries. Complementary or alternative medicine has become an important part of health care in the United States and other countries (Snyder & Lindquist, 2002). Estimates are that in the United States, 627 million people are users of alternative therapies and 386 million people visit conventional practices (Smith et al., 2008). Based on the results of previous research in South Korea, 62% of the research sample reported using Complementary and Alternative Medicines (CAM). Multivitamins (53.3%), acupuncture (48.9%), and traditional Korean herbal medicine (38.9%) were the most popular CAM methods in our sample. Other well-known CAM methods are medicinal plants, massage therapy, and moxibustion therapy. Most CAM users (52.2%) received CAM services for disease management or as secondary care during conventional treatment. Positive perceptions about the effectiveness of CAM are a key factor in Complementary and Alternative Medicines use (Hwang et al., 2014).

Complementary therapy is one of the treatment options that is often used by patients facing chronic diseases. Complementary and alternative medicine is chosen as a complementary treatment

option by more than 95% of people experiencing chronic diseases. Factors driving this include employment status, severity of disease, age and perceived pressure, social stigma, and disease treatment (Berna et al., 2019). Complementary therapy is a traditional therapy that can be developed and integrated with conventional therapy to meet individual needs in terms of psycho and spiritual aspects. Conventional therapy is part of complementary therapy also called alternative therapy (Tasalim et al., 2021).

Several previous studies regarding complementary therapies include that massage therapy can improve eating patterns, improve body image, and reduce anxiety in children with difficulty eating (Stanhope & Lancaster, 2000). Touch therapy can increase relaxation, reduce pain, reduce anxiety, accelerate wound healing, and impact positive psychoimmunological changes (Hitchcock et al., 2003). Based on the results of previous research, out of 50 respondents, 68% of respondents said they had known about complementary therapy and 84% said they agreed that complementary therapy was combined with modern therapy (Saputra, 2021). Treatment using complementary therapies has benefits apart from improving health and being cheaper. Complementary therapy is to be cheaper for clients with chronic illnesses who have to spend money regularly (Nezabudkin, 2008).

Factors related to the use of complementary and alternative medicines (CAM) in previous research stated that race, age, gender, education, and physical health conditions such as pain are factors that can influence the use of complementary and alternative medicines (CAM) in three chronic diseases, the other is diabetes mellitus (Green, 2010). Research in South Korea states that gender, age, marital status, health concerns, and chronic disease conditions play a major role in the use of Complementary and Alternative Medicines (CAM) in four chronic diseases, one of which is diabetes mellitus (Choi et al., 2017).

Based on the results of previous research, it was found that women present different perspectives on complementary and alternative medicines (CAM), which can be divided into three major themes: "Push" factors such as dissatisfaction with traditional health services, "pull" factors that emphasize the positive aspects of the choice and self-care in health problems, and barriers to the use of complementary and alternative medicines (CAM. In general, "push" factors do not play a significant role in the decision to use complementary and alternative medicines (CAM, but are driven by "pull" factors related to ownership of health services and the ability to obtain positive information about complementary and alternative medicines (CAM. Barriers such as age-related access difficulties, reduced mobility and access, and financial limitations were identified (McLaughlin et al., 2012).

The underlying reason why complementary therapy is the people's choice is because complementary therapy is considered a holistic therapy, meaning that it not only improves the condition of the disease but this therapy is also involved in the client's biological and psychological maintenance. It is necessary to further identify the factors that influence the behavior of using Complementary and Alternative Medicines (CAM) in the aggregate community with chronic diseases so that clients' reasons and considerations can be known in making decisions regarding the treatment chosen to improve their quality of life.

The research implications of this research are to add to the study of information in the field of nursing science related to complementary nursing in aggregate communities with chronic diseases, to become study material or information for nurses and health workers in providing complementary nursing services in both clinical and community settings.

2. Research Methods

The design of this research is cross-sectional. The research population is all sufferers who are an aggregate of the community with chronic disease problems who are visiting the Campus Health Center. The sampling technique was purposive sampling. The number of samples in this study was 107 people. The inclusion criteria in this study were patients suffering from chronic diseases who visited the Campus Health Center, could communicate well, could read and write, and were willing to be respondents. The instrument used is a questionnaire. The research data were analyzed using univariate analysis to see the frequency distribution of each variable, while bivariate analysis was used to determine the relationship between the independent and dependent variables using the Chi-Square test and multivariate analysis to

find out the variable that most dominantly influences the dependent variable using the regression test logistics.

3. Analysis and Results

3.1. Univariate Analysis Results

Table 1
Frequency distribution of respondents based on respondent characteristics

Respondent Characteristics		n	%
Age	17 – 55 thn	47	43,9
	> 55 thn	60	56,1
Gender	Man	33	30,8
	Woman	74	69,2
Education	High	45	42,1
	Low	62	57,9
Work	Work	80	74,8
	Doesn't work	27	25,2
Marital status	Married	84	78,5
	Not married yet	11	10,3
	Widow/widower	12	11,2
Income	High	62	57,9
	Low	45	42,1
Total		107	100

Based on the research results, it can be seen in Table 1 showed that the majority of respondents were > 55 years old, 60 people (56.1%), the majority of respondents were female, 74 people (69.2%), the majority of respondents were highly educated, 62 people (57.9%), the majority of respondents worked with as many as 80 people (74.8%), the majority of respondents were married, 84 people (78.5%), the majority of respondents had high incomes, 62 people (57.9%).

Table 2
Frequency distribution of respondents based on the duration of chronic disease and the type of chronic disease suffered

Variabel		n	%
The Duration Of Chronic Disease	≥ 3 months	56	52,3
	< 3 months	51	47,7
	Diabetes mellitus	24	22,4
The Type Of Chronic Disease	Hypertension	59	55,1
	Rheumatoid Arthritis	5	4,7
	Pulmonary TB	19	17,8
Total		107	100

Based on the results of the research, it can be seen in Table 2 that the frequency distribution of respondents based on the length of time they have suffered from chronic disease, the results showed that most of the respondents had suffered from chronic disease for ≥ 3 months, as many as 56 people (52.3%). The frequency distribution of respondents based on the type of chronic disease they suffered showed that the majority of respondents suffered from hypertension, and the type of chronic disease they suffered was hypertension, as many as 59 people (55.1%).

Table 3
Frequency distribution of respondents based on attitudes, beliefs, knowledge, distance to health services, family support, and use of complementary and alternative medicines (CAM)

Variabel		n	%
Attitude	Positive	61	57,0
	Negative	46	43,0
Beliefs	Believe	65	60,7
	Not Believe	42	39,3
Knowledge	Good	58	54,2

Variabel		n	%
Distance to Health Services	Not Good	49	45,8
	Far	26	24,3
	Near	81	75,7
Family support	High	64	59,8
	Low	43	40,2
Use of Complementary And Alternative Medicines (CAM)	Yes	70	65,4
	No	37	34,6
Total		107	100

Based on the research results in Table 3, it can be seen that the majority of respondents have a positive attitude regarding complementary and alternative medicines (CAM) as many as 61 people (57%), the majority of respondents have beliefs regarding complementary and alternative medicines (CAM) as many as 65 people (60.7%). %, most respondents have good knowledge about complementary and alternative medicines (CAM) as many as 58 people (54.2%), most respondents are close to health services as many as 81 people (75.7%), most respondents have family support high as many as 64 people (59.8%), most respondents used cams as many as 70 people (65.4%).

3.2. Bivariate Analysis Results

Table 4
The association between age and the use of complementary and alternative medicines

Age	The Use Of Complementary And Alternative Medicines				Total		P-value
	Yes		No				
	n	%	n	%	n	%	
17 – 55 years	38	74,5	13	25,5	51	100	0,092
> 55 years	32	57,1	24	42,9	56	100	
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 4, 38 people (74.5%) found 51 respondents aged 17-55 years and using Complementary and Alternative Medicines (CAM), compared to 32 people aged > 55 years (75.1%) from 56 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.092, which means there is no association between age and the use of Complementary and Alternative Medicines (CAM).

Table 5
The association between gender and the use of complementary and alternative medicines

Gender	The Use Of Complementary And Alternative Medicines				Total		P-value
	Yes		No				
	n	%	n	%	n	%	
Man	24	72,7	9	27,3	33	100	0,400
Woman	46	62,2	28	37,8	74	100	
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 5, show that 46 people (62.2%) of 74 respondents were female and used Complementary and Alternative Medicines (CAM), compared to 24 female respondents (72.7%) out of 33 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.400, which means there is no association between gender and the use of Complementary and Alternative Medicines (CAM).

Table 6
The association of education to the use of complementary and alternative medicines

Education	The Use Of Complementary And Alternative Medicines		Total	P-value
	Yes	No		

	n	%	n	%	n	%	
High	28	62,2	17	37,8	45	100	
Low	42	67,7	20	32,3	62	100	0,699
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 6, show that 62 respondents with low education and using Complementary and Alternative Medicines (CAM) were 42 people (67.7%) more than those with high education, 28 people (62.2%) out of 45 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.699, which means there is no association between education and the use of Complementary and Alternative Medicines (CAM).

Table 7
The association of employment to the use of complementary and alternative medicines

Employment	The Use Of Complementary And Alternative Medicines				Total	P-value
	Yes		No			
	n	%	n	%		
Work	54	67,5	26	32,5	80	100
Doesn't work	16	59,3	11	40,7	27	100
Total	70	65,4	37	34,6	107	100

Based on the research results in Table 7, show that 54 people (67.5%) were working and using Complementary and Alternative Medicines (CAM), compared to 16 people (59.3%) of the 27 respondents who were not working. The results of statistical tests using the Chi-square test showed a p-value = 0.586, which means there is no association between work and the use of Complementary and Alternative Medicines (CAM).

Table 8
The association between marital status and the use of complementary and alternative medicines

Marital Status	The Use Of Complementary And Alternative Medicines				Total	P-value
	Yes		No			
	n	%	n	%		
Married	54	64,3	30	35,7	84	100
Not married yet	9	81,8	2	18,2	11	100
Widow/widower	7	58,3	5	41,7	12	100
Total	70	65,4	37	34,6	107	100

Based on the research results in Table 8, show that 54 people (64.3%) were married and used Complementary and Alternative Medicines (CAM), compared to 9 unmarried people (81.8%) from 11 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.444, which means there is no association between marital status and the use of Complementary and Alternative Medicines (CAM).

Table 9
The association between income and the use of complementary and alternative medicines

Income	The Use Of Complementary And Alternative Medicines				Total	P-value
	Yes		No			
	n	%	n	%		
High	38	61,3	24	38,7	62	100
Low	37	71,1	13	28,9	45	100
Total	70	65,4	37	34,6	107	100

Based on the research results in Table 9, show that 38 people (61.3%) had higher incomes and used Complementary and Alternative Medicines (CAM), compared to 37 people (71.1%) of the 45

respondents with low incomes. The results of statistical tests using the Chi-square test showed a p-value = 0.396, which means there is no association between income and the use of Complementary and Alternative Medicines (CAM).

Table 10
The association between the duration of chronic disease and the use of complementary and alternative medicines

The Duration of Chronic Disease	The Use Of Complementary And Alternative Medicines				Total	P-value	OR
	Yes		No				
	n	%	n	%			
≥ 3 months	45	80,4	11	19,6	56	100	
< 3 months	25	49	26	51,0	51	100	0,001
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 10, show that 45 people (80.4%) had a chronic disease duration of ≥ 3 months and used Complementary and Alternative Medicines (CAM), compared to 25 people (49%) who had suffered from chronic disease for < 3 months.) from 51 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.001, which means there is an association between the duration of chronic disease and the use of Complementary and Alternative Medicines (CAM). In the risk estimate table, the value OR = 4.255 is obtained, meaning that the duration of chronic disease suffered ≥ 3 months will increase the use of Complementary and Alternative Medicines (CAM) 4.2 times greater than < 3 months.

Table 11
The association between the type of chronic disease and the use of complementary and alternative medicines

The Type Of Chronic Disease	The Use Of Complementary And Alternative Medicines				Total	P-value	
	Yes		No				
	n	%	n	%			
Diabetes mellitus	13	54,2	11	45,8	24	100	
Hypertension	41	69,5	18	30,5	59	100	
Rheumatoid Arthritis	3	60	2	40	5	100	0,590
Pulmonary TB	13	68,4	6	31,6	19	100	
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 11, show that 3 people (69.5%) of the 59 respondents suffered from chronic disease suffering from hypertension and used Complementary and Alternative Medicines (CAM), compared to 21 people (60%) out of 5 who had rheumatoid arthritis respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.590, which means there is no association between the type of chronic disease and the use of Complementary and Alternative Medicines (CAM).

Table 12
The association between attitudes and the use of complementary and alternative medicines

Attitudes	The Use Of Complementary And Alternative Medicines				Total	P-value	OR
	Yes		No				
	n	%	n	%			
Positive	49	80,3	12	19,7	41	100	
Negative	21	45,7	25	54,3	46	100	0,000
Total	70	65,4	37	34,6	107	100	4,861

Based on the research results in Table 12, show that 49 people (80.3%) had a positive attitude and used Complementary and Alternative Medicines (CAM), compared to 21 people (45.7%) who had a

negative attitude. 46 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.000, which means there is an association between attitudes and the use of Complementary and Alternative Medicines (CAM). In the risk estimate table, the value OR = 4.861 is obtained, meaning that a positive attitude will increase the use of Complementary and Alternative Medicines (CAM) 4.8 times greater than a negative attitude.

Table 13
The association between beliefs and the use of complementary and alternative medicines

Beliefs	The Use Of Complementary And Alternative Medicines				Total	P-value	OR
	Yes		No				
	n	%	n	%			
Believe	48	73,8	17	26,2	65	100	
Not Believe	22	52,4	20	47,6	42	100	0,038
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 13, show that 48 people (73.8%) were confident and used Complementary and Alternative Medicines (CAM), compared to 22 people (52.4%) of the 42 respondents who were not sure. The results of statistical tests using the Chi-square test showed a p-value = 0.038, which means there is an association between belief and the use of Complementary and Alternative Medicines (CAM). In the risk estimate table, the value OR = 2.567 is obtained, meaning that confidence will increase the use of Complementary and Alternative Medicines (CAM) 2.5 times more than not being confident.

Table 14
The association between knowledge and the use of complementary and alternative medicines

Knowledge	The Use Of Complementary And Alternative Medicines				Total	P-value	OR
	Yes		No				
	n	%	n	%			
Good	44	80	11	20	55	100	
Not Good	26	50	26	50	52	100	0,002
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 14, it was found that 55 respondents who had good knowledge and used Complementary and Alternative Medicines (CAM) were 44 people (80%) more than those who had less knowledge, 26 people (50%) out of 52 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.002, which means there is a relationship between knowledge and the use of Complementary and Alternative Medicines (CAM). In the risk estimate table, the value OR = 4,000 is obtained, meaning that good knowledge will increase the use of Complementary and Alternative Medicines (CAM) 4 times greater than poor knowledge.

The statistical test results obtained a P-value of 0.000 or ≤ 0.05 , which means there is a relationship between the level of knowledge and the choice of herbal treatment. Further analysis resulted in a Prevalence Odd Ratio = 0.120 (95% CI = 0.042-0.347), which means that patients with a high level of knowledge of diabetes mellitus who chose herbal treatment had a tendency to choose herbal treatment 0.120 times greater than patients with a low level of knowledge who did not choose treatment herbs.

Table 15
The association between distance from health services and the use of complementary and alternative medicines

Distance From Health Services	The Use Of Complementary And Alternative Medicines				Total	P-value
	Yes		No			
	n	%	n	%		

Far	16	61,5	10	38,5	26	100	
Near	54	66,7	27	33,3	81	100	0,809
Total	70	65,4	37	34,6	107	100	

Based on the research results in Table 15, 54 people (66.7%) found that 81 respondents were close to health services and used Complementary and Alternative Medicines (CAM), compared to 16 people (61.5%) who were far away. 26 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.809, which means there is no association between the distance to health services and the use of Complementary and Alternative Medicines (CAM).

Table 16
The association between family support and the use of complementary and alternative medicines

Family Support	The Use Of Complementary And Alternative Medicines				Total		P-value	OR
	Yes		No		n	%		
	n	%	n	%				
High	49	74,2	17	25,8	66	100		
Low	21	51,2	20	48,8	41	100	0,026	2,745
Total	70	65,4	37	34,6	107	100		

Based on the research results in Table 16, it was found that 49 people (74.2%) had high family support and used Complementary and Alternative Medicines (CAM), compared to 21 people (51.2%) with low family support. 41 respondents. The results of statistical tests using the Chi-square test showed a p-value = 0.026, which means there is a relationship between family support and the use of Complementary and Alternative Medicines (CAM). In the risk estimate table, the value OR = 2.745 is obtained, meaning that high family support will increase the use of Complementary and Alternative Medicines (CAM) 2.7 times more than low family support.

3.3. Multivariate Analysis Modeling Results

Table 17
Modeling results

Variable	B	S.E	Wald	df	P-Value	OR	95% CI	
							Lower	Upper
The Duration of Chronic Disease	2,135	0,563	14,370	1	0,000	8,454	2,804	25,491
Attitudes	2,239	0,559	16,059	1	0,000	9,384	3,139	28,051

Based on the results of the multivariate analysis in the final modeling, it was found that the most dominant variable in terms of the use of Complementary and Alternative Medicines (CAM) based on the odds ratio value was the attitude variable where a positive attitude would increase the use of Complementary and Alternative Medicines (CAM) by 9.384 times compared to with a negative attitude after being controlled by other variables in the model. Then the second most dominant variable is the variable for the duration of the chronic disease, where the duration of the chronic disease suffered ≥ 3 months will increase the use of Complementary and Alternative Medicines (CAM) by 8.454 compared to < 3 months after being controlled by other variables in the model.

Table 18
Model summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
105,492 ^a	0,262	0,361

In the summary model based on the Nagelkerke R Square value of the independent variables in the final modeling, the multivariate analysis can explain the use of Complementary and Alternative Medicines (CAM) by 0.361 or 36.1% and 63.9% can be explained by other factors that are not included in the analysis modeling.

Discussion

Age is one of the factors that influences treatment behavior itself. In old age, the treatment process is different compared to young age. This factor is due to the possibility of a degeneration process, inadequate food intake, decreased immunity, and a decrease in the circulatory system (Fibrianty & HIDAYATULLAH, 2009). The choice of drugs in elderly patients should be careful because, in these conditions, there are changes in physiology, pharmacokinetics, and pharmacodynamics, as well as the tendency for disease complications and the development of polypharmacy in the elderly, making this population vulnerable to experiencing problems related to drug use which can aggravate side effects and reduces the effectiveness of treatment (Fleg et al., 2011) As a person ages, physiological functions experience degeneration or decline due to the aging process so many non-communicable diseases appear in the elderly. Apart from that, degenerative problems reduce the body's resistance, making it susceptible to infectious diseases. The results of Riskesdas 2013, the most common diseases in the elderly are non-communicable diseases, including hypertension, arthritis, stroke, chronic obstructive pulmonary disease, and diabetes mellitus (Kementerian Kesehatan Republik, 2016).

The results of this study are supported by research on rational self-medication behavior in society showing that the majority of respondents are women aged ≤ 60 years. Factors such as age, gender, level of education, attitudes, and knowledge are known to be related to a person's treatment behavior. The age group over 30 years is starting to feel that their health is not optimal, or are experiencing signs of degenerative disease. This causes increased drug use and the opportunity for drug-related problems to occur increases, resulting in irrational drug use (Kristina et al., 2007). According to related research titled *The Factors Contributing to Expenditures on Over-the-counter Drugs in South Korea*, it is stated that women and older people who have chronic illnesses more often self-medicate (Cho & Lee, 2013). Meanwhile, other research on factors that influence the use of traditional or complementary health services in families with non-communicable diseases showed that 97,943 (49.9%) families aged 39 years used traditional health services, while 252,630 did not use traditional health services (48.0%) (Kusumaningrum et al., 2017).

According to 2020 Riskesdas data, those with low education tend to have a lower standard of living. People with below-standard levels of education tend to have low knowledge and awareness of the world around them and a poor standard of living as a result. Today, society has a much better understanding of the potential risks associated with drug use. Moreover, many people today are turning to herbal medicine because it is modern today (Kemenkes, 2020). This research is different from research by Retta et al (2023) entitled factors related to the choice of herbal treatment in diabetes mellitus patients. The statistical test results showed that $p\text{-value} = 0.040$ or ≤ 0.05 , which means there is a relationship between level of education with the choice of herbal treatment. Further analysis resulted in a Prevalence Odd Ratio = 5.294 (95% CI = 0.931-30.111), which means that low education level sufferers of diabetes mellitus who chose herbal treatment tended to choose herbal treatment 5.294 times greater than patients at a high level of education who did not choose treatment herbs (Retta et al., 2023)

A person's type of work can be related to social levels and interactions between individuals due to different environments. Occupation influences people's decisions on drug use. This research is in line with research by Melviani (2022) entitled *Factors Related to the Management of Medicines or Traditional Medicines for Self-treatment during the Pandemic*. The results showed that more people already had jobs than those who did not have jobs (Melviani & Rohama, 2022). According to research conducted by Yanti et al (2021) titled *Community Habits in Choosing Alternative Treatment for Disease in Samaulue Village, Lanrisang District, Pinrang Regency*, results were obtained based on economic factors. The research results showed that 75.84% of the community agreed with the statement that people choose alternative treatment because By using alternative medicine, people do not incur expensive costs and the treatment time does not take too long to cure the disease and treatment. In

this study, the economic factors studied were seen from the suitability between work and income and the respondents' views on the economic value of alternative medicine (Yanti & Hengky, 2021).

The duration of illness can affect the use of Complementary and Alternative Medicines. Many diseases that are classified as chronic diseases use Complementary and Alternative Medicines. Based on research results, Complementary and Alternative Medicines are cheaper for clients with chronic illnesses who have to regularly spend money. Based on the experience of clients who initially use modern therapy shows that the cost of purchasing drugs is reduced by 200-300 dollars within a few months of using complementary therapy (Nezabudkin, 2008). This research was supported by Illahi (2020) entitled Analysis of Factors Related to Behavior Seeking Alternative Treatment in Cancer Patients at the East Java branch of the Indonesian Cancer Foundation. There is a relationship between the length of illness and behavior seeking alternative treatment in cancer patients with $p\text{-value}=0.034$ (ILLAHI, 2020)

Attitude is a factor that influences perception. Factors that influence attitudes are family, friends, learning, lecturers, and habits (Tiralongo, 2008). The thing that underlies attitude is knowledge. Health behavior is a person's activities, both those that can be observed and those that cannot be observed directly by other people, which are related to maintaining and improving health. Therefore, health behavior is generally grouped into two, namely healthy behavior which is the behavior of healthy people to stay healthy or improve their health, and health-seeking behavior which is the behavior of people who are sick or have been affected by health problems to obtain healing or solving their health problems (Notoadmodjo, 2003)

Good knowledge of Complementary and Alternative Medicines will prevent errors in use, side effects, undesirable impacts, and impact on the quality and costs of Complementary and Alternative Medicine services. High knowledge about Complementary and Alternative Medicines leads to better use of Complementary and Alternative Medicines. According to the results of related research conducted by Saputra (2021) regarding a survey of public knowledge about complementary therapies, the results obtained from 50 respondents who responded were 54% of respondents or 27 people who gave a score of 3 out of 5 for trust in complementary therapies. The remaining 18 people gave a score of 4, 1 person gave a score of 5, and 4 people gave a score of 2. This shows that on average they gave a medium score for trust in complementary therapies (Saputra, 2021).

Based on Lawrence Green's theory, a person's health behavior is influenced by predisposing factors (age, occupation, education, knowledge, and attitudes), enabling factors (distance to health facilities), and reinforcing factors (family support and community leaders). A person's health is behavioral factors and factors outside of behavior (Notoatmodjo, 2003).

The distance to modern health services is still quite far, it is difficult to access health workers because the number of health workers is limited, a factor that still exists today, but tends to have changed for the better (Rasny et al., 2014). The results of this research are supported by Liana's research entitled Liana (2017) Analysis of Factors that influence families in Using Traditional Medicine as self-medication in Tuguharum Village, Madang Raya District, based on the results of research on the distance to health services in Tugu Harum Village, Madang Raya District, East OKU Regency. Most people are close to health facilities, namely 187 (69.8%) (Liana, 2017).

Family support has a positive effect in controlling a disease, where the family will help provide knowledge and motivation, Someone who has support from their family shows improved treatment than those who do not get the support from their family (Toulasik, 2019). This research is supported by research by Eriyanto and Salman (2021) entitled Analysis of Factors that Influence the Use of Traditional Medicine as a Self-Medication Effort during the COVID-19 Pandemic. There is a significant relationship between families and the use of traditional medicine as a self-medication effort during the COVID-19 pandemic, with the value P-Value 0.001 and OR value = 5.562 (Eriyanto & Salman, 2021).

4. Conclusion

Based on the results of the multivariate analysis, the results of the modeling analysis showed that the most dominant variable regarding the use of Complementary and Alternative Medicines was the attitude variable, where a positive attitude would increase the use of Complementary and Alternative Medicines by 9.384 times compared to a negative attitude after being controlled by other variables in

the modeling. The second most dominant variable is the variable for the duration of the chronic disease, The duration of the chronic disease suffered ≥ 3 months will increase the use of Complementary and Alternative Medicines by 8.454 compared to < 3 months after being controlled by other variables in the model. It is hoped that the behavior of using Complementary and Alternative Medicines (CAM) in patients with chronic diseases regarding the chosen treatment can improve the patient's quality of life. The limitation of this research is that it only examines the factors that influence the use of complementary therapy in chronic diseases. Future researchers can identify the effectiveness of complementary therapy in overcoming nursing problems or health problems experienced by patients with chronic diseases.

This research contributes to adding information to nursing midwifery studies, especially complementary nursing so that the research findings can be taken into consideration by nurses or health workers in providing complementary nursing care to patients with chronic diseases.

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